

ABSTRACT OF THE DISCLOSURE

Sub B17

A fixed pattern detection device in the CDMA communication system in which it is possible to shorten the time involved in detecting a fixed pattern from a signal obtained on re-arraying the fixed pattern and inserted at a chip rate as well as to reduce the circuit scale. A device for detecting a fixed pattern, in which the device is fed as a received signal with a pattern of a length of N chips, the received signal being obtained on dividing and re-arraying each of K (integer) symbols in terms of a chip period as a unit, each symbol being spread with the spread code (PN) at a rate of M (integer) chips per symbol, and on repeatedly inserting into the re-arrayed symbols a signature pattern of a length K having one chip period as a unit, by M times, where $N=K \times M$. The signature pattern is detected from the received signal.

The device includes first-stage correlators taking correlation between M received signals spaced apart from one another at every K chips, and M spread code sequences obtained on decimating a spread code sequence of a length N at every K chips to output correlation values associated with K signatures, and a second-stage correlators taking correlation between the correlation values associated with K signatures output by the first-stage correlators and a pre-defined signature pattern.